

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

1. (Original) A method for providing improved reliability in an aircraft door flight lock actuator comprising:

storing energy in a mechanical energy storage means and an electrical energy storage means;

powering the actuator using the energy stored in the mechanical energy storage means and the electrical energy storage means to complete an unlocking stroke in the absence of aircraft power; and

controlling a linear velocity of the actuator.

2. (Original) The method defined in claim 1, wherein storing energy in the mechanical energy storage means comprises deforming a compression coil spring during a powered locking stroke of the actuator.

3. (Original) The method defined in claim 1, wherein storing energy in the electrical energy storage

means comprises charging at least one capacitor during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

4. (Original) The method defined in claim 1, wherein storing energy in the electrical energy storage means comprises charging a rechargeable battery during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

5. (Original) The method defined in claim 1, wherein the mechanical energy storage means and the electrical energy storage means are fully redundant.

6. (Original) The method defined in claim 1, wherein controlling the linear velocity of the actuator comprises:

sensing a rotational speed of an actuator motor;

sensing a first current supplied to the motor;

reducing the first current if the rotational speed is higher than a maximum speed, or if the first current is higher than a maximum current.

7. (Original) The method defined in claim 6,
wherein

controlling the linear velocity of the actuator further
comprises:

shunting a second current generated by the
motor into a damper circuit to place an electrical load on
the motor if the first current is substantially zero and
the rotational speed is higher than the maximum speed.

8. (Original) The method defined in claim 6,
wherein sensing the rotational speed of the motor comprises
measuring a frequency of a Hall effect sensor signal.

9. (Original) The method defined in claim 6,
wherein sensing the rotational speed of the motor comprises
measuring a back electro-motive force generated by the
motor.

10. (Original) The method defined in claim 6,
wherein reducing the first current comprises reducing a
voltage supplied to the motor.

11. (Original) The method defined in claim 6,
wherein reducing the first current comprises pulse-width-
modulating a power signal supplied to the motor.

12. (Currently Amended) A system for providing improved reliability in an aircraft door flight lock actuator comprising ~~apparatus for~~:

means for storing energy in a mechanical energy storage means and an electrical energy storage means;

means for powering the actuator using the energy stored in the mechanical energy storage means and the electrical energy storage means to complete an unlocking stroke in the absence of aircraft power; and

means for controlling a linear velocity of the actuator.

13. (Currently Amended) The system defined in claim 12, wherein the ~~apparatus~~ means for storing energy in the mechanical energy storage means comprises ~~apparatus~~ means for deforming a compression coil spring during a powered locking stroke of the actuator.

14. (Currently Amended) The system defined in claim 12, wherein the ~~apparatus~~ means for storing energy in the electrical energy storage means comprises ~~apparatus~~ means for charging at least one capacitor during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

15. (Currently Amended) The system defined in claim 12, wherein the apparatus means for storing energy in the electrical energy storage means comprises apparatus means for charging a rechargeable battery during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

16. (Currently Amended) The system defined in claim 12, wherein the apparatus means for storing energy in the mechanical energy storage means and the electrical energy storage means are fully redundant.

17. (Currently Amended) The system defined in claim 12, wherein the apparatus means for controlling the linear velocity of the actuator comprises apparatus means for:

sensing a rotational speed of an actuator motor;

sensing a first current supplied to the motor;

reducing the first current if the rotational speed is higher than a maximum speed, or if the first current is higher than a maximum current.

18. (Currently Amended) The system defined in claim 17, wherein the ~~apparatus~~ means for controlling the linear velocity of the actuator further comprises ~~apparatus~~ means for:

shunting a second current generated by the motor into a damper circuit to place an electrical load on the motor if the first current is substantially zero and the rotational speed is higher than the maximum speed.

19. (Currently Amended) The system defined in claim 17, wherein the ~~apparatus~~ means for sensing the rotational speed of the motor comprises ~~apparatus~~ means for measuring a frequency of a Hall effect sensor signal.

20. (Currently Amended) The system defined in claim 17, wherein the ~~apparatus~~ means for sensing the rotational speed of the motor comprises ~~apparatus~~ means for measuring a back electro-motive force generated by the motor.

21. (Currently Amended) The system defined in claim 17, wherein the ~~apparatus~~ means for reducing the first current comprises ~~apparatus~~ means for reducing a voltage supplied to the motor.

22. (Currently Amended) The system defined in claim 17, wherein the apparatus means for reducing the first current comprises apparatus means for pulse-width-modulating a power signal supplied to the motor.